

Abarna_day83

```
#include <stdio.h>
#define MOD 1000000007

long long calculate_p(int index, int height, long long *values) {
    if (index >= (1 << (height - 1))) {
        return values[index - 1];
    }
    long long left = calculate_p(2 * index, height, values);
    long long right = calculate_p(2 * index + 1, height, values);
    return values[index - 1] * (left > right ? left : right) % MOD;
}

int main() {
    int H;
    while (scanf("%d", &H), H != 0) {
        int total_nodes = (1 << H) - 1;
        long long values[total_nodes];
        for (int i = 0; i < total_nodes; i++) {
            scanf("%lld", &values[i]);
        }
        printf("%lld\n", calculate_p(1, H, values));
    }
    return 0;
}
```